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10/807,417	03/23/2004	R. Shane Fazzio	10030899-1	3854

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EXAMINER	
LEWIS, MONICA	

ART UNIT	PAPER NUMBER
2822	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/807,417	FAZZIO, R. SHANE	
	Examiner	Art Unit	
	Monica Lewis	2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 March 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6,9-11 and 20-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6,9-11 and 20-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 June 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the response filed March 13, 2007.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3, 6 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art in view of Guenther et al. (U.S. Publication No. 2003/0062830).

In regards to claim 1, Applicant's Prior Art ("APA") discloses the following:

a) a device chip including a substrate (20) and at least one circuit element (24) fabricated on the substrate (For Example: See Figure 2);

b) a cap (30) over said device chip said cap including a gasket (32) having an inner and outer surface (For Example: See Figure 2);

c) bonding agent (34) bonding said cap to said device chip to define a hermitically sealed cavity (For Example: See Figure 2).

In regards to claim 1, APA fails to disclose the following:

a) a caulking agent at least partially surrounding said bonding agent to reinforce the sealed cavity, said caulking agent surrounding said bonding agent at at least the inner surface of the gasket.

However, Guenther et al. ("Guenther") discloses a caulking agent (470) at least partially surrounding said bonding agent (430) said caulking agent surrounding said bonding agent (430) at at least the inner surface of the gasket (For Example: See Figure 4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the

semiconductor of APA to include a caulking agent at least partially surrounding said bonding agent said caulking agent surrounding said bonding agent at at least the inner surface of the gasket as disclosed in Guenther because it aids in improving the flexibility of the device (For Example: See Paragraph 19).

Additionally, since APA and Guenther are both from the same field of endeavor, the purpose disclosed by Guenther would have been recognized in the pertinent art of APA.

In regards to claim 2, APA discloses the following:

a) the bonding agent comprises gold (For Example: See Paragraph 4).

In regards to claim 3, APA fails to disclose the following:

a) the caulking agent is selected from a group consisting of amorphous fluorocarbon polymer, polyimide materials, and benzocyclobutene based materials.

However, Guenther discloses a caulking agent that is selected from a group consisting of amorphous fluorocarbon polymer, polyimide materials, and benzocyclobutene based materials (For Example: See Paragraph 19). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of APA to include a caulking agent that is selected from a group consisting of amorphous fluorocarbon polymer, polyimide materials, and benzocyclobutene based materials as disclosed in Guenther because it aids in improving the flexibility of the device (For Example: See Paragraph 19).

Additionally, since APA and Guenther are both from the same field of endeavor, the purpose disclosed by Guenther would have been recognized in the pertinent art of APA.

In regards to claim 6, APA fails to disclose the following:

a) the caulking agent surrounds at least a portion of the cap.

However, Guenther discloses a caulking agent that surrounds at least a portion of the cap (For Example: See Figure 4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of APA to include a caulking agent that surrounds at least a portion of the cap as disclosed in Guenther because it aids in improving the flexibility of the device (For Example: See Paragraph 19).

Additionally, since APA and Guenther are both from the same field of endeavor, the purpose disclosed by Guenther would have been recognized in the pertinent art of APA.

In regards to claim 21, APA fails to disclose the following:

a) a caulking agent extends from said cap to said device.

However, Guenther discloses a caulking agent that extends from said cap to said device (For Example: See Figure 4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of APA to include a caulking agent that extends from said cap to said device as disclosed in Guenther because it aids in improving the flexibility of the device (For Example: See Paragraph 19).

Additionally, since APA and Guenther are both from the same field of endeavor, the purpose disclosed by Guenther would have been recognized in the pertinent art of APA.

In regards to claim 22, APA fails to disclose the following:

a) the caulking agent is adjacent to said bonding agent.

However, Guenther discloses a caulking agent adjacent to said bonding agent (For Example: See Figure 4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of APA to include a caulking agent

that is adjacent as disclosed in Guenther because it aids in improving the flexibility of the device (For Example: See Paragraph 19).

Additionally, since APA and Guenther are both from the same field of endeavor, the purpose disclosed by Guenther would have been recognized in the pertinent art of APA.

In regards to claim 23, APA fails to disclose the following:

a) the caulking agent is separated from said bonding agent by open space.

However, Guenther discloses a caulking agent that is separated from said bonding agent by open space (For Example: See Figure 4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of APA to include a caulking agent that is separated from said bonding agent by open space as disclosed in Guenther because it aids in improving the flexibility of the device (For Example: See Paragraph 19).

Additionally, since APA and Guenther are both from the same field of endeavor, the purpose disclosed by Guenther would have been recognized in the pertinent art of APA.

Finally, the following limitation makes it a product by process claim: a) "prior to bonding said cap to said device chip." The MPEP § 2113, states, "Even though product -by[-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted).

A *"product by process"* claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972): *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); In re Fessmann, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a *"product by, all of"* claim, and not the patentability of the process, and that an old or obvious product, whether claimed in *"product by process"* claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art in view of Guenther et al. (U.S. Publication No. 2003/0062830) and Kikushima et al. (U.S. Publication No. 2003/0061693).

In regards to claim 4, APA fails to disclose the following:

a) the circuit element is a resonator.

However, Kikushima et al. ("Kikushima") discloses a semiconductor device that has a resonator (3) (For Example: See Figure 1b). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of APA to include a resonator as disclosed in Kikushima because it aids in providing a communication device (For Example: See Paragraph 4).

Additionally, since APA and Kikushima are both from the same field of endeavor, the purpose disclosed by Kikushima would have been recognized in the pertinent art of APA.

5. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art in view of Guenther et al. (U.S. Publication No. 2003/0062830) and Goldmann et al. (U.S. Patent No. 6,459,160).

In regards to claim 9, APA fails to disclose the following:

a) comprises multiple layers of the caulking agent.

However, Goldmann et al. ("Goldmann") discloses a semiconductor device that comprises multiple layers of the caulking agent (142, 152 and 54) (For Example: See Figure 1b). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of APA to include multiple layers of the caulking agent as disclosed in Goldmann because it aids in providing protection for the device (For Example: See Column 7 Lines 30-34).

Additionally, since APA and Goldmann are both from the same field of endeavor, the purpose disclosed by Goldmann would have been recognized in the pertinent art of APA.

In regards to claim 10, APA fails to disclose the following:

a) multiple layers of the caulking agent comprises layers having different caulking material relative to other layers of the caulking agent.

However, Goldmann discloses multiple layers of the caulking agent comprises layers having different caulking material relative to other layers of the caulking agent (For Example: See Figure 1b). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of APA to include multiple layers of the caulking agent comprises layers having different caulking material relative to other layers of the caulking agent as disclosed in Goldmann because it aids in providing protection for the device (For Example: See Column 7 Lines 30-34).

Additionally, since APA and Goldmann are both from the same field of endeavor, the purpose disclosed by Goldmann would have been recognized in the pertinent art of APA.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art in view of Guenther et al. (U.S. Publication No. 2003/0062830), McCormick et al. (U.S. Publication No. 2003/0143423) and McHerron et al. (U.S. Patent No. 6,046,074).

In regards to claim 11, APA fails to disclose the following:

a) multiple layers of the caulking agent comprises layers have the same caulking material relative to other layers of the caulking agent.

However, McHerron et al. ("McHerron") discloses a caulking agent that comprises layers that have the same caulking material relative to other layers of the caulking agent (For Example: See Figure 5). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of APA to include a caulking agent that comprises layers having the same caulking material relative to other layers of the caulking agent as disclosed in McHerron because it aids in providing good strength (For Example: See Column 4 Lines 40-50).

Additionally, since APA and McHerron are both from the same field of endeavor, the purpose disclosed by McHerron would have been recognized in the pertinent art of APA.

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art in view of Guenther et al. (U.S. Publication No. 2003/0062830) and Guenther et al. (U.S. Publication No. 2004/0211966).

In regards to claim 20, APA fails to disclose the following:

a) the caulking agent surrounds said bonding agent at both the inner and outer surface.

However, Guenther discloses a caulking agent that surrounds said bonding agent at the inner surface (For Example: See Figure 4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of APA to include a caulking agent that surrounds said bonding agent at the inner surface as disclosed in Guenther because it aids in improving the flexibility of the device (For Example: See Paragraph 19).

Additionally, since APA and Guenther are both from the same field of endeavor, the purpose disclosed by Guenther would have been recognized in the pertinent art of APA.

Finally, Guenther et al. ("Guenther") discloses a caulking agent (380) that surrounds said bonding agent (364) at the outer surface (For Example: See Figure 3). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of APA to include a caulking agent that surrounds said bonding agent at the outer surface as disclosed in Guenther because it aids in providing protection (For Example: See Paragraph 23).

Additionally, since APA and Guenther are both from the same field of endeavor, the purpose disclosed by Guenther would have been recognized in the pertinent art of APA.

Response to Arguments

8. Applicant's arguments filed 3/13/07 have been fully considered but they are not persuasive. First, Applicant argues that "Guenther et al. does not disclose a caulking agent on a gasket. Instead, Guenther et al. discloses an organic light emitting diode display 400 having a dielectric 470 deposited on a conductive layer 420 on a substrate 410." However, Applicant is arguing limitations (a caulking agent on a gasket) that are not disclosed in the claims. Guenther

discloses a caulking agent at least partially surrounding said bonding agent said caulking agent surrounding said bonding agent at at least the inner surface of the gasket (For Example: See Figure 4). Second, Applicant argues that "dielectric 470 forms isolation pillars for isolating cathode materials and for supporting the layers above...thus, dielectric 470 is not used as a caulking agent on a gasket." However, Applicant discloses that the caulking agent can be made of a polyimide material which is the same material that Guenther discloses (For Example: See Specification Paragraph 20 and Guenther Paragraph 19). Therefore, it would have the same characteristics. Finally, Applicant argues that Guenther does not even disclose a gasket between a lid 450 and substrate 410." However, Guenther does disclose a gasket (420) (For Example: See Figure 4).

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica Lewis whose telephone number is 571-272-1838. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zandra Smith can be reached on 571-272-2429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300 for regular and after final communications.

ML

May 16, 2007

MONICA LEWIS
PRIMARY PATENT EXAMINER